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CHANGING DIETARY AND HEALTH PRACTICES

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1. The purpose of this paper is to examine the adaptive character of behavior relation to illness and health, and to review briefly some of the general principles that are involved in instituting changes in these behaviors. Development is merely another name for on-going cultural evolution and it is the aim here to see the change in nutritional and dietary habits in this context.

Health, Ecology and Development.

2. It is important that those concerned with promoting better health and nutritional practices recognize that man is in constant competition with an increasing variety of insects, bacteria, viri, etc., as well as his fellow men. This on-going competition means that what is called "development", that is, the increasing control of man over the environment, is in fact a competitive process. Health and nutritional practices are merely one set of habits that provide man with more or less control over his environment. Illness, be it of nutritional origin or otherwise, simply reflects one aspect of the total adaptation of a population to the total environment and the particular niche it occupies therein.

3. There are two phases of ecological changes accompanying development that are of specific interest here, because of their effect on changing health and nutritional practices. One of these is the changing nature of the adaptive units of human populations as societies develop; the other is the acceleration of the use of energy and the increasing variety of energy forms used by developing societies. Each of these have important consequences for understanding changing health practices.

The Changing Nature of the Adaptive Unit.

4. As societies develop they tend to segment, not only into greater numbers of similar units, i.e. more towns,and villages, but also into increasingly different kinds of units, i.e. social classes, occupational groups, political, religious and ethnically identified groups, etc. The effect on health of these changes is immediately apparent when one contrasts the multiple peasant villages of some parts of the world with urban specialist groups elsewhere. In the former one looks for differences in illnesses and the mode of handling them on a geographical basis: Thus goiter is common to a region where iodine is deficient, and kwashiokor to populations in which the diet of young children after weaning is inadequate. While the cultures of each community within these populations are not entirely similar and internally homogeneous, most individuals in the communities are within a limited income range, share a generally similar adaptation pattern, and are, therefore, more or less open to the same maladies.

5. In more developed areas, the differentiating social entities manifest both different relationships with their environment, and different habit patterns in handling them. Thus as occupational specialty groups emerge, the particular habits of these trades breed specifically occupational diseases, old age diseases, over consumption diseases, poverty diseases, etc. Another feature of this differentiation is the emergency of segments that take it as their particular province to improve the health and nutritional adaptation of the rest of the segments.

However, these health action groups often forget that from the point of view of the population, they are merely one of a number of alternative resources, and that the benefits they offer are frequently not clear. The long-range benefits of "mental health" in the United States are as obscure to much of the U. S. population as are the use of latrines to many rural peasant groups.

An implication of this is that the health action worker must take particular pains to distinguish what is the meaningful environment of the particular group with which he is working. In both the more and less developed parts of the world, health action workers tend to come from the middle segments of the population. While they share common knowledge with members of their own segments, they face a common cross-cultural problem of understanding the adaptation and the views of the members of the other segments, both higher and lower. When they press for changing habits of health and nutrition, they are in fact pressing for a readaptation of those groups. And when it is realized that the health action worker's own views must reflect his own successful adaptation as a member of one kind of group, it becomes quite clear that it may be difficult for him to understand the perspective of another group.

The Acceleration of Quantity Production in Development.

6. Perhaps the most crucial underlying physical process that marks development is accelerating the conversion of natural resources into goods to be used and discarded by man. This process has two very direct effects on the changing of health and nutritional habits. It multiplies the number and kind of goods that are introduced into the health and curing process; and it multiplies the energy cost of production of foods and other elements in the health process.

7. The first of these points is fairly easy to see. The introduction of environmental sanitation means the introduction of goods produced in industrialized societies. Pipe, pumps, reinforced concrete, hardware, etc., are being introduced into the uttermost parts of the earth. Improved therapy usually means an increase in both quantity and variety of medicines to be applied to specific illnesses. The materials of scientific medicine and public health come, then in increasing quantity at exactly the same time that other competitive items enter the ken of the less developed society. The health action worker is not merely working against the current practice, but against competing new alternatives from other sources.

8. The implications of the facts that the energy cost of production increases are equally important. Development requires increasing the rate of converting the habitat into usuable items for man. This means both utilizing new energy sources, and consuming the materials converted. The increasing quantity of curing items just discussed is one way this is done. In the area of diet, the effects are equally profound. There is an increasing amount of energy spent in the actual production of foods, so that as development occurs, there is a change in the kinds of foods utilized. The major shift is from foods of high caloric content produced chiefly by hand agriculture, to a wider variety of foods of lower caloric content. There is, therefore, a general trend away from cheap, starchy staples, to foods of higher energy cost of production, although frequently lower in human labor cost.

9. The nature of this general trend is often obscured by the fact that within a developing country, various regions, localities and different emerging urbanized groups, will be developing at different rates. Also, where there exists the problem of keeping agricultural production ahead of the rapidly increasing population, much of the population continues on a marginal economic situation and is incapable of much participation in the development process. As a result, large segments of the population may often be suffering a stasis or even a setback. In addition to this irregularity, there are frequently strong seasonal variations in availability of goods, so that portions of the population will suffer severe nutritional deficiencies during some parts of the year. As well documented in children with Kwashiorkor, this reduces resistance to secondary infections.

10. The importance of recognizing these long-term trends, together with their social and seasonal variations, is, that the attempt to introduce certain types of new food habits may be much less appropriate than strictly nutritional considerations would lead one to conclude. The soy bean never caught on in the United States as a straight food product, in spite of considerable efforts to introduce it, because the trend was simply away from direct consumption of such foods. In the very laudable efforts to develop high protein food supplements in less developed areas, attention must be paid to which segments of the populations can be expected to utilize the new products.

Changing Knowledge and Practices.

11. If it can be accepted that the introduction of new health and nutritional practices is by way of a readaptation of a society to new circumstances, it follows that very real problems occur because no two situations are exactly the same. There are, however, some important consistencies in human society which can help the health action worker's understanding. Two areas will concern us here. First is the presence in all societies of "folk knowledge". Second are some basic processes which operate in innovation among all peoples.

Folk Knowledge and Practices

12. The ethnocentrism of developed societies has led their members to regard those who fail to act in accord with their own practices as being "ignorant" and "superstitious". This has led even specialists to try to contrast the "knowledge" that is to be derived from scientific work, with a thing they call "ignorance" which characterizes most of the world's peoples. This knowledge-ignorance dichotomy is misleading. The significant difference in this matter is not to be found between societies, but between the specialists and the non-specialists. In all societies, most people are non-specialists when it comes to matters of health and nutrition. Although the practices of some societies are clearly more efficacious, as measured in terms of mortality, morbidity, and life expectancy, that which the people in those societies "know" about how their own practices work, and how they may react to new practices is quite another matter.

13. So it is that "folk knowledge", and in the present instance specifically folk medicine, has mistakenly been thought to be peculiar to some "ignorant" segments of the world's population when in fact it is a kind of knowledge which characterizes in one way or another almost everyone in the species. Folk knowledge comprises that set of terms, practices, and ideas that are common to the non-specialists of the population. By way of example I can identify some practices and ideas from my own society, but this is done only from casual reflection and not as systematic observation. Besides being very bothered with "new kinds of virus" which seem periodically to pass across the United States, North Americans are also very bothered with the "common cold" a variety of upper and lower respiratory infection said to be derived from getting caught in drafts, or through contact with someone else who has one. Even the tiniest prick of the skin will send most North Americans to the medicine cabinet in search of a disinfectant "to kill the germs" and a bandage "to keep the wound clean". Now, it might be argued that some of these are well founded in scientific work; and this is probably true. But the people who carry on the practice carry it on because they were taught it as a practice, and not because they have themselves ascertained the scientific validity of what they are doing.

14. Accepting the idea that all societies have broad folk knowledge areas and that it is left to few to be specialists in any given area, it is legitimate to seek distinctions between the folk knowledge characteristic of more and less developed societies. Here again, the study of more developed societies is defective, but as a first approximation, we can suggest the following:

(a) In less developed societies there tend to be fewer elements (i.e. terms, material items in use) and those which are in existence tend to be more widely known and subject to very gradual change in usage. In more developed societies there are more items, there tends to be be a greater variation in their usage, and they are subject to much more rapid change.

(b) The more rapid change of the folk knowledge of the more developed society derives from the fact that there are specialized segments of the society devoted to creating and diffusing new elements, and among these, most important from our viewpoint, is the work of the medical scientist. There is a constant production of new knowledge, and portions of this filter down and become parts of the folk knowledge of the society. Since the production is continuing, folk knowledge is constantly being bombarded by new elements, and a residue is regularly incorporated.

(c) The folk medicine of more developed societies is more characterized by fads and fashions. Partly because of the constant availability of new elements, and partly because choice between new elements often therefore rests on social acceptability rather than tests of efficacy, some forms receive special favoritism.

15. It should be noted that we do not identify any particular forms, such as witchcraft, the use of herbal remedies, etc., as being the distinguishing features of folk medicine. These things may distinguish the folk medicine of many parts of the world, but different names have been applied to comparable practices in more advanced societies. The extraordinary faith placed in aspirin by many segments of advanced societies is certainly magic; the denunciation of one doctor and the worshipping of another is quite comparable to the shifting of healers found in less developed societies. Most uses of the term magic are so thoroughly ethnocentric that they can only be misleading.

Processes of Innovation

16. If we accept that folk knowledge is essentially comparable psychologically from one society to another, it also follows that the processes of change are comparable. Numerous studies, both in the more and less developed countries, have made it possible to identify some of these processes. Perhaps the most important is "rational behaviour". Given the particular body of knowledge of a people, and the set of values built into this knowledge, they will rationally choose what seems to be the best for them. That this is often ignored and occasionally denied by action workers rests on the fact that it may be difficult to understand clearly another person's culture, to see his point of view, and to make evaluations in terms of his concepts and values." It is even more difficult when the action worker is committed to his own values to the point of propagating them. It has long been apparent that mere daily contact over a long period of time with another people not only does not guarantee an understanding of their culture, but can even build almost impenetrable walls against such an understanding. It is easier to brand another as being "ignorant" or "stupid" than to admit that one is himself incapable of understanding them.

17. The essentially rational behavior of people is often further obscured by the fact that alternatives presented may be ambiguous. When this is the case, it is most common that resolution will either be avoided entirely or will be made on the supposed judgement of someone else. This someone else is called a "reference group". Thus, the individual trying to decide whether or not to accept an innovation being presented by a health action worker, will reflect on whether it will receive the approval of the people to whom he looks for approbation, or whether it will make him more similar to people he admires. The problem that faces all health action workers is that of identifying the reference groups that govern these kind of decisions.

18. Knowledge finds its social significance in the fact that it is shared with someone else. Every cultural element is so shared, and the particular finite set of individuals tied together through common sharing of a cultural trait comprises a social organization. In introducing a new item, one must presumably either follow through some existing social organization, or establish a new set of common

meanings and thereby a new social organization. Since few of the world's communities are developed enough to maintain active public health organizations, many new practices must be promoted through existing organizations such as clubs, civic groups and clique groups.

19. Considerable care must be exercised in identifying potential social relationships or organizations to serve as diffusion channels for new practices. Most communities have a few individuals of particular prestige who serve best as a focus for the diffusion of new practices. These may not be the individuals who most readily accept new practices, however, for the social position of a person may tell little about his psychological predisposition to innovation. Some early acceptors may be the most unsatisfactory from the standpoint of social prestige. Most communities have individuals who seek innovation to resolve personal problems. If these individuals stand in a position of low prestige, they may actually inhibit diffusion. The standing of the early acceptors is especially important in cases where the efficacy of the innovation is not immediately apparent and reliance must therefore be placed entirely on the opinion of one's fellows. It should also be noted that the acceptance by a person of high prestige does not guarantee widespread diffusion. The nature of his prestige must be such that he serves as a significant reference group for others. So far as we know, there is no essential difference between more or less developed societies in these matters. The definition of a reference group varies from one to another, and there may even be culturally established proper modes of imitation.

20. Besides the social relations involved in diffusion, the interpretation placed on a practice can be expected to change in the course of adoption into a new cultural setting. Before a new form is accepted it will be compared with what is known and it will be identified with something that is familiar and similar. In this way a meaning or idea already common in the society is extended to give a familiar association to the new form. If the similarity thus discovered is a pleasant one, the innovation is likely to be accepted; if it is unpleasant, then its acceptance is extremely inhibited. If accepted, however, the new meaning will be extended to the innovation and it will not mean exactly the same thing it did in the donor culture, and probably never will. This process has been called reinterpretation and signals the fact that in passing from one culture to another, a practice will almost always undergo a change in meaning.

21. Just as a new item will be judged in terms of what it is similar to, so the meanings associated with the new item will suggest to the acceptors that it be changed to fit in with what they already know. The health action worker must not be too demanding about whether the form he is promoting is accepted entirely as he finds it in his own culture. Wheat, when taken up by the high altitude Indians of Guatemala was not adopted as leavened bread familiar to Spain, but converted into tortillas, the griddle cake standard for aboriginal corn. In more developed cultures, millions of dollars are spent annually in packaging to make a product more acceptable in shape, size and decoration. This, of course, is part of the increasing energy cost of production mentioned earlier; but the principle operates anywhere that an innovation is being promoted.

Research and Development in Action Programs.

22. The introduction of new health practices is essentially a process of readaptation of a people to a changing environment. The specific psychological processes require that there be some understanding of the social organization, and the cognitive and value systems of the people to gain cooperation. We must, therefore, look to the kinds of action program that may be most effective for this.

23. In general, health action workers have tended to look upon the development process as a simple means-end issue. A given condition now exists; another condition is more desirable, and means are set up to accomplish the more desirable condition. The vocabulary of development has evolved around this basic theme. We speak of "sponsoring agencies", "target populations", "take-off", "great leap", "five year plan", of peoples being "resistant to change", of "achievements", and so forth. In cases where

the aim is to alter specific environmental elements or specific physical or material phases of the culture, the means-ends approach has often proved to be successful or at least promising. The introduction of iodine into salt to prevent goiter, the eradication of malaria, and the establishment of water and drainage systems are programs that are trying directly to create a new environment.

24. When one turns to changing practices and habits that cannot be changed through directly altering the habitat, the means-ends program has not proved to be sufficient. Health education has occasionally proved effective, but has usually been the weakest part of the public health effort. The readaptation of behavior can be more successfully introduced through a process that frankly apes the evolutionary adaptation. Following preliminary investigation, an innovation is attempted. Careful observation of the results provides feedback that leads to further investigation and further innovation. There is nothing basically new in this "research and development" process. In essence, it was the basis of the entire Land Grant College system that was so important in the agricultural development of the United States. The land grant college provided a local research center that could teach and focus on the immediate problems of the area. Coupled with the country extension agent, the land grant college provided the research and development basis for working directly with the United States farmer. The success of the land grant college has not been entirely lost on other countries, and there are numerous attempts underway to graft the system on to other national establishments. This success of the land grant effort, however, lay in its early design to fit the agricultural, economic and social conditions of the time. It is, therefore, not the specific organization of the land grant college that is so important but the basic principles of research and development around which it was conceived.

25. The crucial features of these research and development methods include the following:

(a) A permanent research and teaching organization receives continuing financial support and is free from political interference and direction except within the total structure of the entity providing support. While the major goals of the organization obviously must be in accord with the general philosophy of the maximal supporting political entity, the year-to-year work and day-to-day activity cannot be inhibited by the internal political vagaries of that political entity, or the research effort cannot achieve the necessary continuity.

(b) The organization must be closely linked to various individuals and other agencies that are involved in action programs so that research may immediately be translated into action, and the results fed back to the research organization for further examination. It is this constant interplay between the laboratory, so to speak, and the field, that provides the crucial adaptive quality of this kind of program.

(c) The translation of research into action must be carried on with the specific individuals for whom the research is being done so that the application of research results comprises the actual adaptation of those individuals. The process thus requires that the individuals whose habits are to change, be participant in and cognizant of the process.

26. In ecological terms, the research and development process provides the only way thus far developed for directed culture change to make allowance for the numerous regional and local variations that characterize human adaptation. It rejects the idea that any specific formal behavior is appropriate for all populations unless the issue involved is one common to human adaptation everywhere. It recognizes that every population exists in a slightly different environment, has made a different adjustment to it, and that the success of the development of each lies in a process of readaptation.

For general reviews of the subject, the reader is encouraged to refer to the recent paper by Polgar. From it one may be led to the other literature in the field. Other recent reviews include Rubin and Hughes.

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